



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/692,427	10/22/2003	Fu-Ling Hung	870-03090301	8388
25864	7590	07/13/2005	EXAMINER	
CHARLES C.H. WU 98 DISCOVERY IRVINE, CA 92618-3105			LEE, WILSON	
			ART UNIT	PAPER NUMBER
			2821	

DATE MAILED: 07/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/692,427

Applicant(s)

HUNG, FU-LING

Examiner

Wilson Lee

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 22 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 and 22-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 30-33 is/are allowed.
- 6) ☒ Claim(s) 1-20 and 24 is/are rejected.
- 7) ☒ Claim(s) 22, 23 and 25-29 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

### **Response to Arguments**

Applicant argues that **the main driver 104** of the present invention is NOT Kim's numerals 50, 60 as alleged by the Examiner.

Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Regarding applicant's argument stating Kim's circuit 70 being not connected to the main driver 104 of the present invention, Examiner agrees that Kim's circuit 70 is not connected to the main driver 104 of the present invention.

Examiner has withdrawn the rejections of claims 22 and 23 accordingly.

### **Claim Rejections – 35 U.S.C. 102**

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 5-7, 10-20, 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Kim (5,353,214).

Regarding Claim 1, Kim discloses a high intensity discharge driver for a HID lamp (sodium or mercury lamp, L shown in figure 4 and abstract), comprising:

- an input processor (comprised of 10, BD) connected to an input power for suppressing a transient and an in-rush current of the input power (See Col. 2, lines 11-15);

Art Unit: 2821

- an input processor (comprised of 10, BD) connected to an input power for suppressing a transient and an in-rush current of the input power (See Col. 2, lines 11-15);
- a main driver (comprised of T3, T4, Q2, Q3, Q5-Q8, C16, C17) having at least one capacitance (C16, C17) contained therein for determining an output power, the main driver being connected to the input processor and a HID lamp (L) for driving and amplifying the input power; and
- a protection circuit (70) connected to the main driver (See Figures 1 and 2) and the HID lamp for controlling a timing of starting after a failure condition (when IC is suspended due to overload or overheat, the starting time will be delayed. See Col. 3, lines 39-59).

Regarding Claim 2, Kim discloses that the HID driver comprises a HID ballast (60) (See Figure 3).

Regarding Claim 3, Kim discloses that the HID lamp comprises a high-pressure sodium lamp or a metal (mercury) halide lamp (See Abstract).

Regarding Claim 5, Kim discloses that the HID driver comprises:

- a timing circuit (IC<sub>2</sub> for oscillating inverter 50 shown in Figure 1) connected to the main driver for controlling a timing; and
- a starting circuit (comprised of trigger element DIAC2, c26, see Col. 3, lines 5-7 and Figure 4) connected to the timing circuit and HID lamp for starting (triggering) the HID lamp.

Art Unit: 2821

Regarding Claim 6, Kim discloses that the HID driver comprises a HID ballast (output transformer) (See Figure 3).

Regarding Claim 7, Kim discloses that the HID lamp comprises a high-pressure sodium lamp or a metal (mercury) halide lamp (See Abstract).

Regarding Claim 10, Kim discloses that the input processor (10) comprises an rectifier (BD) and filter circuit C1-C4, L1) (See Figure 3 and Col. 2, lines 11-14).

Regarding Claim 11, Kim discloses that the input processor comprises an electromagnetic wave controller (TNR) for suppressing an electromagnetic wave interference (See Col. 2, lines 50-57).

Regarding Claim 12, Kim discloses that the input processor comprises a negative temperature control (NTC) resistor for suppressing the in-rush current (See Figure 3 and Col. 2, lines 13-14).

Regarding Claim 14, Kim discloses that the input processor comprises a voltage sensitive resistor (NTC) for suppressing the in-rush current (See Figure 3 and Col. 2, lines 13-14).

Regarding Claim 15, Kim discloses that the main driver comprises a power factor correction circuit (20) connected to the input processor (through circuits 30-60) and the protection circuit (70) (See Figure 1).

Regarding Claim 16, Kim discloses that the main driver comprises a special power supply (30) connected to the input processor, the PFC circuit (20), the timing circuit (IC<sub>2</sub>) and the protection circuit (70) (See Figure 1).

Art Unit: 2821

Regarding Claim 17, Kim discloses that the special power supply (30) comprises two circuit paths (from R17 to Q2 and from C12 to Q5) (See Figure 2).

Regarding Claim 18, Kim discloses that the main driver comprises a power driver (comprised of Q5-Q8, R23, VR3, C14, R19-R21, VR2) connected to the input processor, the special power supply (30), the PFC circuit (20) and the protection circuit (70) (See Figures 1-3).

Regarding Claim 19, Kim discloses that the power driver comprises a light adjuster (comprised of R23, VR3, C14, R19-R21, VR2) for adjusting the brightness of HID lamp by adjusting a frequency (duty ratio) of the power driver (See Col. 3, lines 15-25).

Regarding Claim 20, Kim discloses that the main driver comprises a half bridge inverter (Q2, Q3) connected to the input processor (10, BD) and the HID lamp (L) (See Figure 2).

Regarding Claim 24, Kim discloses that the starting circuit comprises a capacitor (C26) connected in parallel to the HID lamp (L) in replacement of the sub-starting circuit when the HID lamp is a metal halide lamp (L) (See Figure 4).

### **Claim Rejections – 35 U.S.C. 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2821

Claims 4, 8, 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim (5,353,214) in view of Peil (5,428,267).

Regarding Claims 4, 8, 9, as discussed above, Kim essentially discloses the claimed invention but does not explicitly disclose AC having the input voltage in range of 85V to 305V at operating frequency of 50/60Hz. However, such AC source having the voltage in range of 85V to 305V at 60 Hz is standard to most of the households. For example, Peil discloses a standard AC voltage source (30, 31) having voltage of 240V at 60Hz. It would have been obvious to one of ordinary skill in the art to use Kim's invention with a common AC source e.g. Peil's source in order to energize Kim's invention.

#### **Allowable subject matter**

Claims 30-33 are allowed.

The following is an examiner's statement of reasons for allowance:

The prior art neither discloses nor suggests the following limitations, in combination with the remaining elements disclosed in the independent claims:

- the starting circuit comprises a circuit having a capacitor for fine tuning an output of the HID lamp, a brightness of the HID lamp, and a low-frequency content for controlling an induced sound resonance such as required by claim 30.
- the starting circuit comprises a circuit having a thyristor between a capacitor and a resistance for preventing the HID drive from restarting when the HID lamp is on such as required by claim 31.

Art Unit: 2821

- the thyristor is connected to the timing circuit to control a re-starting of the HID lamp by the timing circuit such as required by claim 32.
- the main driver comprises a first integrated circuit for PFC and for governing preceding filtering and rectification and a second IC for power driving and the timing circuit comprises a third IC, and when input voltages of the first, second and third ICs, are below predetermined values, the second and the third IC are locked out and the first IC is maintained to be powered and ready for a re-starting such as required by claim 33.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Claims 22, 23, 25-29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### **Conclusion**

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within



Art Unit: 2821

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Adamson (6,072,282) discloses a controlled quick and soft start gas discharge lamp ballast and method.

### **Correspondence**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Wilson Lee whose telephone number is (571) 272-1824.

Papers related to Technology Center 2800 applications may be submitted to Technology Center 2800 by facsimile transmission. Any transmission not to be considered an official response must be clearly marked "DRAFT". The official fax number is (703) 872-9306.

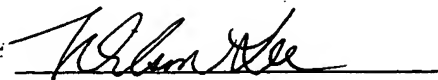
Information regarding the status of an application may be obtained from the Patent Application Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you

Application/Control Number: 10/692,427

Page 9

Art Unit: 2821

have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Wilson Lee", is written over a horizontal line.

Wilson Lee  
Primary Examiner  
U.S. Patent & Trademark Office

7/11/05